

Dispersion Properties of a Coaxial Helical
Line Immersed in a Magnetodielectric

77322

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$\frac{2\pi}{d} z - \Theta = \text{const}$, the current density is in the
form of a traveling wave. The authors next write
the components of \mathbf{K} in the cylindrical coordinate
system in the form:

$$K_\theta = f\left(\frac{2\pi}{d} - z\right) e^{-i\lambda_\theta z}; \quad K_z = g\left(\frac{2\pi}{d} - z\right) e^{-i\lambda_z z}. \quad (2)$$

Note that owing to their single-valuedness with
respect to Θ , f , and g , functions must be periodic
in Θ with a period of 2π , which ensures that
Eqs.(2) agree with the Folquet theorem. Equations
(2) are most general, and f and g parts describe
the current density distribution in the cross
section of the strip. After Fourier-analyzing Eqs. (2),
the authors compute the fields for the general
case, and for the case when the waveguide is missing.

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To obtain dispersion relations one has to satisfy the additional condition that the strip current flows along a perfect conductor. The authors at this point neglect the perpendicular current component, which is permissible only in case of narrow strips. Owing to the simplification the dispersion relations will contain, in addition to the resonant terms, some correction terms obtained by solving the analogous problem by using modified boundary conditions of Mozhesh-Smirnov. Utilizing the simplification, the boundary condition reduces to:

$$E_{\parallel} K_{\parallel}^* = 0 \quad (\text{at } r = a). \quad (13)$$

where E_{\parallel} and K_{\parallel}^* are the components of the electrical field and the current parallel to the strip surface. The authors weaken this condition further by requiring only that the integral of (13) taken over the surface $r = a$ be zero. Physically

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speaking, neither active nor reactive power is crossing the surface of the strip. After appropriate transformations the dispersion relations may be written in the form:

$$\sum_{m=-\infty}^{+\infty} |K_{lm}|^2 \frac{1}{\gamma_m a} \left\{ \frac{I'_m(a)}{I_m(a)} \cdot \frac{\frac{K'_m(c)}{I'_m(c)} - \frac{K'_m(a)}{I'_m(a)}}{\mu_1 \left[\frac{K_m(c)}{I'_m(c)} - \frac{K_m(a)}{I_m(a)} \right] - \left[\frac{K'_m(c)}{I'_m(c)} - \frac{K'_m(a)}{I'_m(a)} \right]} - \frac{I_m(a)}{I'_m(a)} \cdot \frac{\left[\frac{K_m(c)}{I'_m(c)} - \frac{K_m(a)}{I_m(a)} \right] \left[\frac{\gamma_m a}{ka \operatorname{ctg} \psi} - \frac{mh_m a}{ka \gamma_m a} \right]^2}{\epsilon_2 \left[\frac{K_m(c)}{I_m(c)} - \frac{K'_m(a)}{I'_m(a)} \right] - \left[\frac{K_m(c)}{I_m(c)} - \frac{K_m(a)}{I_m(a)} \right]} \right\} = 0. \quad (14)$$

where $\gamma_m = \sqrt{h_m^2 - k^2 \epsilon \mu}$; $h_m = h_o + \frac{2\pi m}{d}$; I_m and K_m are modified Bessel functions; m labels the m -th

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Fourier component. For $\mu_1 = \mu_2 = \mu$, $\epsilon_1 = \epsilon_2 = \epsilon$, (14) goes over into the dispersion relation obtained by Stark (see raf). For the m-th Fourier component of the parallel density distribution on the helix, the authors use Stark's expression:

$$K_{lm} = \frac{I}{d \cos \psi} J_0 \left[\left(m + \frac{h_0 a}{\operatorname{ctg} \psi} \cos^2 \psi \right) \frac{\pi b}{d} \right], \quad (16)$$

obtained assuming: that the parallel component of the current along the strip tends to infinity as the inverse square root of the distance from the edge of the strip; that the current density is symmetrical over its cross section; and that the distribution curves of constant phases are lines perpendicular to the strip edges. In the equation, I is amplitude of the linear current; J_0 is Bessel's function of the first kind, zero order. To simplify Eq. (14), the

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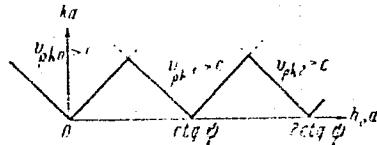
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authors first note that the phase velocity of the m -th component in the ka , $h_0 a$ coordinates is given by:

$$\frac{v_{ph,m}}{c} = \frac{k}{h_m} = \frac{ka}{h_0 a + m \operatorname{ctg} \psi}. \quad (17)$$

The m -th phase velocity in units of the speed of light c for a given point of the characteristics of propagation in the ka , $h_0 a$ coordinates is then determined by the slope of the line passing through the point $m \operatorname{ctg} \psi$ on the $h_0 a$ axis and the point on the characteristics, Fig. 1.



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Fig. 1.

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The boundary of the forbidden regions is obtained
from condition $\frac{v_{ph.m}}{c} = 1$, which leads to:

$$ka = h_0 a + m \operatorname{ctg} \phi. \quad (18)$$

All equations obtained will give fields with a phase velocity smaller than the speed of light. If in the case of m -th field $v_{ph.m} > c$, its radial dependence is of an oscillatory nature, the solutions are of a special kind and will be discussed separately. In the allowed region fields with $m = -s$ (where $s =$ integers) have the largest phase velocity, while phase velocities of other fields are small compared to the velocity of light, and they are localized in the vicinity of the helical strip. The $m = -s$ fields

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may be strong in the larger portion of the cross section and carry the basic portion of the energy of the total field. They are, therefore, dominant in the solution of the characteristic equation, and it is natural to separate such a main term from the rest of the s-band fields and compare it to the sum of these remaining terms $S_{R,m}$. Computing them correctly up to the first order terms, one discovers that they are of the same form for an arbitrary m :

$$S_{R_0} = S_{R_1} = \dots = S_{R_m} = \frac{(h_0 a)^2 - (ka \cosec \psi)^2}{(ka \ctg \psi)^2} \sin \psi \ln \frac{2d}{\pi b}. \quad (19)$$

The authors compute the expression for (14) in the $0 < h_0 a < 1/2 \cot \psi$ band and in the $1/2 \cot \psi < h_0 a < 3/2 \cot \psi$ band, and describe the process of plotting the dispersion curves. They note that asymptotic values

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$\frac{v_{ph,m}}{c} \approx \sqrt{\frac{1 + \frac{\mu_2}{\mu_1} \sin \psi}{1 + \frac{\epsilon_2}{\epsilon_1}}} \text{ of } \frac{v_{ph,m}}{c}$ for higher frequencies are given by:

for the zero, first, and second order. Figure 3
shows typical dispersion curves for $\psi = 10^\circ$, c/a

$= 2$, $b/d = 0.1$; $\frac{\mu_2}{\mu_1} = 1$ and $\frac{\epsilon_2}{\epsilon_1} = 1, 2, 81$ (curves

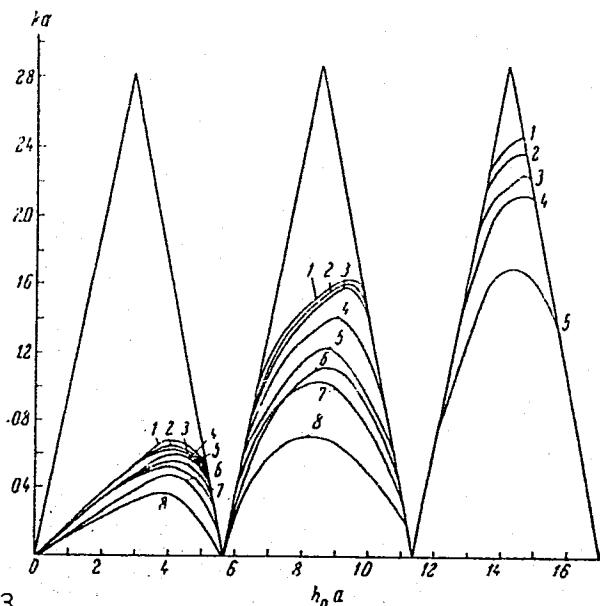
1, 4, 6). Curves 2, 5, 8 are for $b/d = 0.5$, all
the other relations being the same, and curves 3, 7

for $b/d = 0.9$; $\frac{\epsilon_2}{\epsilon_1} = 1, 2$.

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Fig. 3.

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The authors state that a variation of b/d between 0.1 and 0.5 increases somewhat the retardation of the system while the influence of $\frac{\epsilon_2}{\epsilon_1}$ and $\frac{\mu_2}{\mu_1}$ on the retardation rapidly weakens with the increase in the distance of the magnetodielectric form from the helix. In the case of fast wave with phase velocity higher than c , $ka > h_m a$; $\gamma_m = ig_m$; expression:

$$\left[\frac{q_m a}{ka \operatorname{ctg} \psi} + \frac{mh_m a}{ka q_m a} \right]^2$$

transforms into:

$$\left[\frac{(ka)^2 - (h_0 a)^2}{(ka \operatorname{ctg} \psi)^2} + \frac{m^2}{(q_m a)^2} \right]$$

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and dispersion relation (14) can be written as:

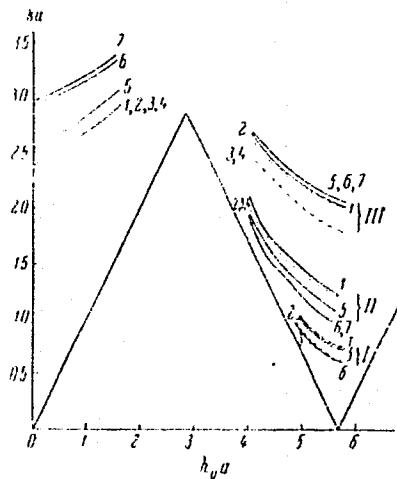
$$\begin{aligned}
 Q_m &= \left(\frac{k_n}{q_m a} \right)^2 = \\
 &\frac{1}{q_m a} \left| \frac{J_m(a)}{J'_m(a)} - \frac{N_m(a)}{J_m(a)} \right|^{-2} \cdot \sin^2 \frac{2d}{\pi b} \\
 &\cdot \left| \frac{J'_m(c)}{J_m(c)} - \frac{N'_m(a)}{J'_m(a)} \right|^{-2} \cdot \left| \frac{N_m(a)}{J_m(a)} - \frac{N_m(c)}{J_m(c)} \right|^{-2} \\
 &\cdot \left| \frac{N'_m(c)}{J'_m(c)} - \frac{N'_m(a)}{J'_m(a)} \right|^{-2} \\
 &\cdot \frac{1}{q_m a} \left| \frac{J'_m(a)}{J_m(a)} \right|^2 \cdot \frac{p_1}{p_2} \left| \frac{N_m(a)}{J_m(a)} - \frac{N'_m(c)}{J'_m(c)} \right|^{-2} \cdot \left| \frac{N'_m(c)}{J'_m(c)} - \frac{N'_m(a)}{J'_m(a)} \right|^{-2} \\
 &\cdot \frac{m^2}{(q_m a)^2} \left| \frac{J_m(a)}{J'_m(a)} \right|^2 \cdot \left| \frac{N_m(a)}{J_m(a)} - \frac{N_m(c)}{J_m(c)} \right|^{-2} \cdot \left| \frac{N_m(c)}{J_m(c)} - \frac{N'_m(a)}{J'_m(a)} \right|^{-2} \cdot \sin^2 \frac{2d}{\pi b}, \quad (29)
 \end{aligned}$$

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The authors discuss the case of the zero and the
first space resonance.



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Fig. 8

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On Fig. 8 dispersive curves are plotted for $\psi = 10^\circ$, $c/a = 2$; $b/d = 0.1$. Curves 1, 2, 3 and 4 refer to $\mu_2/\mu_1 = 1$, $\epsilon_2/\epsilon_1 = 1, 2, 9, 25$, and curves 5, 6, and 7 to $\epsilon_2/\epsilon_1 = 1$, $\mu_2/\mu_1 = 2, 20$, and 40, respectively, all for the case of the first intersecting curves of the zero resonance. Curves for the first resonance are in three groups, I, II, and III, corresponding to the three groups of solution of the dispersion relation. Indices 1 to 7 have the same meaning as in the zero resonance. The authors note that for $\epsilon_2/\epsilon_1 = 1$ and $\mu_2/\mu_1 = 1$ the limit of fast waves is in the vicinity of $ka = 0.8$. When $\epsilon_2/\epsilon_1 \neq 1$ and $\mu_2/\mu_1 \neq 1$, this limit moves towards $ka \approx 0.6$. The cutoff determined in this is practically the most important quantity when planning a system with a unique type of wave propagation.

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CIA-RDP86-00513R001652720018-9

SPOLOSOV, N.

Conference on Radiochemistry. Atom. energ. 17 no.28153-154
Ag '64 (MIRA 17:8)

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CIA-RDP86-00513R001652720018-9"

137-1958-2-2682

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 69 (USSR)

AUTHORS: Spoludennaya, A.A., Sladkova, K.I.

TITLE: A Study of High-purity Aluminum Ingots (Issledovaniye slitkov alyuminiya vysokoy chistoty)

PERIODICAL: V sb.: Metallurg. osnovy lit'ya legkikh splavov. Moscow, Oborongiz, 1957, pp 155-163

ABSTRACT: A study was made of the structure and mechanical properties of continuous-cast ingots of 99.99 percent pure Al. To produce these high-purity ingots, Al brand AV000 was used. Smelting was done in an electric resistance furnace; the smelting and casting temperature was 730°, the refining temperature 715-690°. For the purposes of the study hollow ingots were cast with diameters of 270/105 and 270/163 mm and a solid-section diameter of 270 mm. A study of the macrostructure showed that the grains grew much faster from the outer surface than from the inner one. The mechanical properties were determined on templets taken from ingots of each size. The specimens were tested as cast and after tempering. They were tempered in saltpeter at 500° for 6 hours and were allowed to cool afterwards in the air. When the Al ingots were

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A Study of High-purity Aluminum Ingots

tempered at temperatures of 450° and above, a collective recrystallization took place, as a result of which the size of the grains increased severalfold. It was found that δ fluctuated from 20 to 40-60 percent. The σ_b of the high-purity Al ingots was 2.8 kg/mm² lower than that of ingots of ordinary Al.

G.S.

1. Aluminum ingots--Properties
2. Aluminum ingots--Structural analysis
3. Mechanical properties--Determination

Card 2/2

KISELEVA, V.P., retsenzent; SPOLUDENNYY, L.Y., nauchnyy red.;
SEREDKINA, N.P., tekhn.red.

[Advanced techniques in the application of coatings; collected
articles] Progressivnye sposoby pokrytii; sbornik statei.
Sverdlovsk, TSentr.biuro tekhn.informatsii, 1959. 35 p.
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1. Russia (1917- R.S.F.S.R.) Sverdlovskiy ekonomicheskiy
administrativnyy rayon. Sovet narcdnogo khozyaystva.
(Protective coatings) (Electroplating)

SPOLUDENNYI

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Lenin Metallurgical Plant in Kuybyshev. TSvet. met. 37 no.9:1-3
S '64. (MIRA 18:7)

SPOLUDENNYY, L.F., inzh., nauchnyy red.; KUTENKOVA, G.M., tekhn.red.

[Drawing tubes with a floating mandrel] Volochenie trub na
plavaiushchei opravke. Sverdlovsk, TSentr.biuro tekhn.
informatsii, 1959. 73 p. (MIRA 14:4)

1. Russia (1917- R.S.F.S.R.) Sverdlovskiy ekonomicheskiy
administrativnyy rayon. Sovet narodnogo khozyaystva.
(Tubes)

(Deep drawing--Equipment and supplies)

DOBATKIN, Vladimir Ivanovich, doktor tekhn.nauk; KSENOFONTOV, B.M.,
retsenzent; SPOLUDENNYY, L.F., red.; SYRCHINA, M.M., red.
izd-va; TURKINA, Ye.D., tekhn.red.

[Aluminum alloy ingots] Slitki aliuminievykh splavov. Sverdlovsk,
Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii.
Sverdlovskoe otd-nie, 1960. 175 p. (MIRA 13:8)
(Aluminum alloys) (Nonferrous ingots)

SPONADEL, L.; FIZELY, J.

Therapeutic use of cold in surgery. *Cesk. fysiol.* 7 no.4:344-345 July
58.

l. Ustav pro doskoloovani lekaru, Praha, Vojenska lekarska akademie,
Hradec Kralove.

(HYPOTHERMIA,
surg. use (Cz))

MUNK, P.; SPONAR, J.; PIVEC, L.

Deoxyribonucleic acids in solution. Pt. 2. Coll Cz
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1. Institute of Macromolecular Chemistry and Institute
of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

MUNK, P.; SPONAR, J.; PIVEL, J.

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I. Institute of Macromolecular Chemistry and Institute of Organic
Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

OKAC, Arnost; SPONAR, Jaromir

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(THIOSEMICARBOZONES, determination
photometric, in drugs)
(DRUGS
determ. of thiosemicabazone in, photometry)

KROUPA, J.; SPONAR, J.

Significance of blood tributyrinase in objective diagnosis of traumatic fat embolism. Rozhl. chir. 36 no.8:501-512 Aug 57.

1. Vyzkumny ustav traumatologicky v Brne, reditel prof. Dr. Vladimir Novak.

(**FRACTURES**, compl.

fat embolism in long bone fract., diag. value of blood tributyrinase (Cz))

(**PELVIS**, fract.

causing fat embolism, diag. value of blood tributyrinase (Cz))

(**EMBOLISM**, diag.

fat, blood tributyrinase in pelvic & long bone fract. (Cz))

(**LIPASES**, in blood

tributyrinase in fat embolism in pelvic & long bone fract, diag. value (Cz))

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Novák. J. K., Vyzk. ust. traum., Brno, Ponavka 6.

(FRACTURES, blood in
proteins (Cz))

(BLOOD PROTEINS, in var. dis.
fract. (Cz))

SPONAR J.

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J. K., Brno 12, Ant. Macka 7.

(EMBOLISM, diag.
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S P O N A R
KROJPA, J.; SPONAR, J.; OSTRCIL, F.

Relation of blood tributyrinase to traumatic fat embolism. Rozhl.
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Novak. J. K., Brno 12, Ant. Macka 7.

(EMBOLISM, blood in
tributyrinase in posttraum. fat embolism (Cz))
(LIPASES, in blood
same)

SPONAR, Jaromir

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(SULFURIC ACID related compounds)
(LABORATORIES)

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Contribution to the estimation of the volume of circulating blood following injuries. Rozhl. chir. 39 no.1:5-8 Ja '60

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(BLOOD VOLUME)
(WOUNDS AND INJURIES, blood)

KLEMENT, M.; DOHNALEK, J.; KOCOUREK, M.; SPONAR, J.

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Rozhl. chir. 39 no.1:9-13 Ja '60

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Novak Traumatologicke odd. KUNZ, Pardubice, prednosta MUDr. Cerny
Chirurgicke odd. OUNZ. Decin, prednosta MUDr. J. Rousek
(SHOCK prev & control)
(ANALGESICS AND ANTIPYRETICS, ther)

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heparin administration. Rozhl. chir. 39 no.1:14-24 Ja '60

1. Vyzkumny ustav traumatologicky v Brne, reditel prof. MUDr. Vl.
Novak.

(ENZYMES, blood)
(WOUNDS AND INJURIES, blood)
(HEPARIN, pharmacol.)

KROUPA, J.; SPONAR, J.

Vitamin C and its role in reactions of the organism to injuries.
Rozhl. chir. 39 no.1:25-33 Ja '60

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Vladimir Novak.

(VITAMIN C, blood)
(WOUNDS AND INJURIES, blood)
(SURGERY OPERATIVE, blood)

MUSIL, F.; KREJCI, V.; SALANSKY, I.; SPONAR, J.

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39 no.6:374-379 Je '60.

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V.Novák, Ustav experimentalní patologie Brno, prednosta prof.
MUDr et RNDr. V. Uher
(WOUND HEALING)
(AUTONOMIC NERVOUS SYSTEM physiol)

KROUPA, J.; HAVLIN, I.; technicka spoluprace: SPONAR, J.

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Cas.lek.cesk.99 no.37:1153-1160 9 S'60.

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Vladimir Novak.
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KROUPA, Josef; SPONAR, Jaromir

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637-649 0 '61.

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Novak, Dr.Sc.

(FRACTURES blood) (LIPIDS blood) EMBOLISM blood)

MUSIL, Frantisek; SPONAR, Jaromir

Circumscrip interstitial calcinosis. Rozhl. chir. 40 no.12:836-
843 '61.

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Novak, doktor lek. ved.
(CALCIFICATION) (FINGERS diseases)

Analytical Chemistry
7

CR
Potentiometric titration of free sulfur trioxide in fuming sulfuric acid. Jaroslav Sponar (Tech. Univ., Prague, Czech.). *Chem. Listy* 45, 446-8 (1951).—Oleum was titrated with H₂O. The 100% concn. of H₂SO₄ was indicated by a chloranil electrode with a Hg₂SO₄ electrode in 93.5% H₂SO₄ as a reference electrode. M. Hudlický

CZECHOSLOVAKIA/Human and Animal Physiology - Blood.

T-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31567

Author : Vodrazka Zdenek, Sponar Jaroslav

Inst : -
Title : Photo-Oxidation of Proteins of the Blood. IV. Photo-
Oxidation of Blood Plasma and Its Fractions in the
Presence of Methylene Blue.

Orig Pub : Chem. listy, 1955, 49, No 7, 1069-1074.

Abstract : Due to the effect of light on whole plasma, the content of histidine and triptophane and to a lesser degree of tyrosine was reduced with the addition of methylene blue, as a result of oxidation. The change of the UV-spectra of absorption of proteins was in addition analogous to that observed during photo-oxidation of other proteins. Changes were noted of the solubility of the proteins of the plasma; in addition H_2O_2 , was not formed.

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SPONAR, JAROSLAV.

✓ Protein interactions. V. Theoretical treatment of the binding of dimerizing dyes. Jaroslav Sponar and Zdeněk Vodrážka (Ústav hematol. krevní transfuse, Prague). *Vestn. Českoslov. chem. listy* 49, 1617 (1955).—The relations expressing the binding between reversibly dimerizing dyes and a protein are derived for the following cases: the binding of the monomer alone; of the dimer alone; of the dimer with two binding centers and of the simultaneous binding of the monomer and of the dimer with one binding center; there are given the expressions for the dissociation constants of the complexes formed and the theoretical dependences of the amount of the dye, bound by one mol. of protein, on the concent. of the free dye. The assumptions involved are discussed. VI. Binding of methylene blue by blood proteins. Jaroslav Sponar, Zdeněk Vodrážka, and

Jitka Šponarová. *Ibid.* 860-6.—The relations previously derived have been applied. With globin-HCl a binding of electrostatic nature has been observed in which only the dimer of methylene blue takes part. The dissociation constants of the complexes of dimer bound by one and two centers are: $K_1 = 3.8 \times 10^{-4}$ and $K_2 = 3.2 \times 10^{-4}$. The results of the absorption-spectra study are given. With serum albumin only a binding of electrostatic nature has been observed which is manifested only at low ionic strengths. The relative weakening of the binding at higher concns. of the protein is explained by the change of its activity coeffs. VII. Investigation of the thermal denaturation of human serum albumin by the angular extrapolation light-scattering method. Blahoslav Sedláček (Chem. ústav ČSAV, Prague). *Ibid.* 867-83.—On heating solns. of human serum albumin,

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1/2

Sponar, Jaroslav & Vodrážka, ...

a linear aggregation of its particles takes place. The mol. wt., size, shape, and the degree of aggregation of the particles were detd. The best model for the particles formed by the aggregation is a rodlike model. The degree of polydispersity were detd. approx.; after the heat aggregation a lowering of the degree of aggregation and of polydispersity took place on prolonged standing at room temp.

E. Erdős

2/2

SPONAR, J.; VODRAZKA, Z.; SPONAROVÁ, J.

Protein interactions. VI. Binding of methylene blue by blood proteins. p. 860.
(Chemicke Listy, Praha. Vol. 50, no. 6, June 1956.)

SO: Monthly List of East European Accession (EEL) LC, Vol. 6, no. 7, July 1957. Uncl.

J. Vojtěch, J.; Šindelář, K.; Šimáček, J.

"Notes on the theory of heterogeneity in solutions." In German.

p. 359. Collection of Czechoslovak Chemical Communications, sborník Českoslovatských
Kémických Rábot. (Praga, Czechoslovakia) Vol. 22, no. 2, Apr. 1957.

SC: Monthly Index of East European Accession (EMAI) LC, Vol. 7, No. 5, May 1952

SPONAR, J.; VODRAZKA, Z.

"Protein interactions. V. Theoretical solution of the binding of dimerizing dyes. In German."

p.1232 (Sbornik Chekoslovatskikh Khimicheskikh Rabot, Vol. 22, no. 4, Aug. 1957,
Praga, Czechoslovakia)

Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 8, August 1958

SPONAR, J.; VOLPIKVA, Z.; SPONAROVA, J.

Theory of metachromasy in solutions. p. 369. (Chemicke Listy, Vol. 51, no. 2, Feb. 1957.)

SO: Monthly List of East European Accession (EHAL) Vol. 6, no. 7, July 1957. Uncl.

SPONAR, Jaroslav

CZECHOSLOVAKIA / Chemistry of High Molecular Substances. I

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 63271.

Author : V - Jaroslav Sponar, Cyril Losticki.
VI - Ladislav Lacko, Jiri Malek.

Inst : Not given.

Title : Upon Dextran. V. Molecule Shape and Size of
Some Dextran Fractions. VI. Effect of Dex-
tran Concentration, Temperature and pH on Dex-
tran Solubility in Aqueous-Alcohol Solution at
Various Ion Forces.

Orig Pub: Chem. listy, 1957, 51, No 9, 1641 - 1648;
No 11, 2006 - 2009.

Abstract: V. The molecular weight and the molecule
size of three dextran (I) samples were
measured by the method of light scat-
tering after acid hydrolysis. The ratio

Card 1/4

58

CZECHOSLOVAKIA / Chemistry of High Molecular Substances. I

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 63271.

Abstract: of scattering constants $D_{C_6 H_6}$ and $D_{D_2 O}$, determined by free scattering, was used for the description of the polydispersion. Further, the distribution of scattering constants and the distribution of molecular weights therefrom were determined, which allowed to make further conclusions regarding the nature, the shape and the size of I molecules. The measurements showed that the spontaneous aggregation of I consists most probably in the formation of a great number of large aggregates.

VI. Some factors influencing the separation of I were studied. Natural I of L6 origin hydrolyzed with dilute HCl (acid), fraction of $M_n = 30,000$, was used as experimental material. The determination of the connection between the

Card 2/4

Sponar, Jaroslav

CZECHOSLOVAKIA/Optics - Physical Optics.

K

Abs Jour : Ref Zhur Fizika, No 2, 1960, 4470

Author : Sponar, Jaroslav

Inst :
Title : Simple Photoelectric Instrument for the Measurement of
the Scattering of Light

Orig Pub : Chem. listy, 1959, 53, No 4, 429-432

Abstract : Description of the photoelectric instrument for the measurement of the scattering of light. The determination of the corrections and the calibration of the instrument are described.

Card 1/1

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STOKROVA, S.; BARTL, P.; SPONAR, J.

The interaction of albumins. Part 21: Characteristics of the components of human serum albumins denaturated by heat. Coll Cz Chem 25 no.5:1258-1266 My '60.

1. Physikalisch-chemische Abteilung, Chemisches Institut, Tschechoslowakische Akademie der Wissenschaften, Prag.

SPONAR, J.

On protein interactions. Part 28: A sedimentation study of per-
formic acid oxidation products of chymotrypsinogen and dip-
chymotrypsin. Coll Cz Chem 26 no.8:2015-2021 '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

STOKROVA, S.; SPONAR, J.

Protein interactions. Part 34: Differentiation of components
of heated human serum albumin solutions. Coll Cz Chem 27
no.11:2516-2526 N '62.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652720018-9

SPONAR, J.

"Protein structure" by H.A.Scheraga. Reviewed by J.Sponar.
Coll Cz Chem 27 no.12:3082-3083 D '62.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652720018-9"

STOKROVA, S.; SPOJAR, J.

CSSR

Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 3, 1963,
pp 659-669.

"Protein Interactions, XXXVI. Distribution of Stability in a System of Serum Albumin Molecules"

(2)

KRATOCHVÍL, P; MUNK, P; ŠTOKROVÁ, S; ŠPONAR, J; SEDLÁČEK, B.

Czechoslovakia

Institute of Macromolecular Chemistry and Institute of
Organic Chemistry and Biochemistry, Czechoslovak
Academy of Science — Prague — (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 4, 1963, pp 972-983

"Protein Interactions. XXXVIII. Retardation of Aggregation
of Heat-Denatured Human Serum Albumin by
Previous Heating."

5

STOKROVA, S.; SPONAR, J.

Protein interactions, Pt. 36, Coll Czech Chem 28 no. 3:659-669
Mr '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

KRATOCHVIL, P.; MUNK, P.; STOKROVA, S.; SPONAR, J.; SEDLACEK, B.

Protein interactions. Pt. 38. Coll Cz Chem 28 no.4:972-984
Ap '63.

1. Institute of Macromolecular Chemistry and Institute of
Organic Chemistry and Biochemistry, Czechoslovak Academy of
Sciences, Prague.

SPOŇAR, J.; FRÍC, I.; STOKROVÁ, S.; KOVARIKOVÁ, J.

On heterogeneity of human serum albumin. Coll Cz Chem 28
no.7:1831-1837 Jl '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

RONAR, J.; LIVIC, I.; LOHNOVÁ, A.

Dexyribonucleic acids in solution. Pt. 4. Coll. Czech. Chem. 29 no. 9:
2077-2085 S '64.

I. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

CZECHOSLOVAKIA

ZADRAZIL, S.; PIVEC, L.; SPONAR, J.; SORMOVA, Z.

Institute of Organic Chemistry and Biochemistry,
Czechoslovak Academy of Sciences,-Prague - (for all).

Prague, Collection of Czechoslovak Chemical Communications, No 11, November 1965, pp 3920-3928.

"Isolation of low-molecular dna from various animal tissues."

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VAHALA, Josef; SPONAR, Jiri; WEIGNER, Jaromir

Condensation of the monochloroacetic acid with phenol and its derivatives. Chem prum 13 no.1:6-12 Ja '63.

1. Spolek pro chemickou a hutni výrobu, n.p., Usti nad Labem.

VAHALA, Josef; SPONAR, Jiri; MALEK, Jaroslav; HANBRYCHOVA, Jirina

Deshlorination of 1,1,2-trifluoro-1-chloro-ethane and 1,2-dichloro-tetrafluoro-ethane. Chem prum 14 no.12:634-638 D
'64.

1. Research Institute of Chemical Technology, Spolek pro
chemickou a hutni výrobu National Enterprise, Usti nad Labem.

CECH, E.: PAPEZ, L.: SKRIVAN, J.; STRIBRNY, J. Laboratormi cast: SPOJAROVA, J.: STASTNY, J.; STOYKLASOVA, H.

Estrogen level in the urine of women with threatened abortion.
Cesk. gynek. 29 no.4:276-280 My'64

1. I gyn.-por. klin. fakulty vseobecneho lek. KU [Karlovyy uni-versity] v Praze; prednosta: prof. dr. K.Klaus, DrSc.

CZECHOSLOVAKIA

UDC 616.153.962.3-074(:547.632.3):616.36

KUCEROVA, L.; HOENIG, V.; JIRSA, M.; SPOJAROVA, J.; 1st Internal Clinic, Faculty of General Medicine, Charles University (I. Interni Klinika Fak. Vseob. Lek. KU), Prague, and Laboratory of Pathophysiology of Liver and Blood Formation at the 1st Internal Clinic (Laborator pro Patofysiologii Krvetvorby a Jater pri I. Interni Klinice), Chief (Prednosta) Prof Dr V. HOENIG.

"Albuminemia in Liver Disease Established by the Bromosulphalein Method."

Prague, Casopis Lekaru Ceskych, Vol 106, No 7, 17 Feb 67, pp 184 - 186

Abstract /Authors' English summary modified/: Albuminemia was investigated by the BSP method, by electrophoresis, bilirubemia, and by the concentration of non-esterified fatty acids in the plasma of 50 patients suffering from liver diseases. In some cases the BSP method gave lower results than electrophoresis. This can be explained by formation of a bond between albumin and fatty acid. It is more pronounced in hypoalbuminemia. Existence of a factor causing deterioration of the BSP bond to plasma albumin is probable. 1 Figure, 8 Western, 4 Czech references. (Manuscript received June 1966).

-/-
CZECHOSLOVAKIA UDC 615.36(612.115.35):612.12(577.153.084)

FABIAN, E.; KUCEROVA, L.; STORK, A.; SPONAROVA, J.; 1st Internal Clinic, Faculty of General Medicine, Charles University (I. Int. Klinika Fak. Vseob. Lek. KU), Prague; Laboratory of Pathophysiology of Blood Formation and Liver Diseases at the 1st Internal Clinic (Laborator pro Patofyzioligii Krvetvorby a Jater pri I. Interni Klinice), Prague, Head (Prednosta) Prof Dr V. HOENIG.

"Relationship Between Postheparin Lipolytic and Esterase Activity in Healthy Men and Women."

Prague, Casopis Lekaru Ceskych, Vol 105, No 38, 16 Sep 66, pp 1030 - 1032

Abstract [Authors' English summary modified]: A group of healthy men and women was examined; the content of the free fatty acid plasma before and after the administration of heparin was determined. Activity of postheparin esterase and of lipoprotein lipase in vitro was determined. The relationship between the free fatty acids and lipoprotein lipase in vitro is discussed. Postheparin esterase activity is different in men and in women. No relationship between lipolysis in vivo and lipoprotein lipase activity in vitro was found. 1 Figure, 11 Western, 7 Czech references. (Manuscript received Dec 65).

Theory of metachromasy in solutions. Jaroslav Šponar,
Zdeněk Václavka, and Jitka Šponarová (Ostav hematol.
krevní transfuse, Prague). *Chem. listy* 51, 369-71 (1957).
Absorption spectra of methylene blue at various concns. of
protein (human globulin; serum albumin) in buffered and un-
buffered solns. were measured. The conclusions of the
theory of Schubert and Levine (*C.A.* 49, 15483*b*) are essen-
tially confirmed, but modifications of the theory in some re-
spects are suggested. E. Erdős

Spondr, VIKTOR

Chemical analyses of tobacco brands harvested at various stages of ripeness. Viktor Spondr. *Skriňa práce o tabaku, Slovensk. akad. vied, Šes. vied. pod hospodárskych, Bratislava 1955, 277-82.*—The carbohydrate, total N, and protein contents were detd. in several brands of tobacco leaves at several stages of ripeness. The degree of ripeness was estd. from the chlorophyll content, indicated by the extent of the green coloration of the leaves. The degree of coloration was adjudged with the aid of Ostwald's international color scale.
A. Lasslo

Spondr, VIKTOR

✓ Chemical changes in the tobacco leaf during fermentation.
Viktor Špondr. - *Skorník prde o tabaku, Slovensk. akad. vied,*
SKA. vied. pri "Národnopodlanskych, Bratislava. 1955, 283-4.
The sugar, polyphenol, and protein content has been detd.
in several tobacco brands before and after fermentation.

A. Lasslo

SPONER, A.

Soil improvement with a D 267 plow. p 349. (MECHANISACE ZEMEDELSTVI,
Vol. 7, No. 15, Aug 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

SPONER, F., and others

SCIENCE

Periodicals: GEODETICKY A KARTOGRAFICKY OBZOR. Vol. 5, no. 1, Jan. 1959

SPONER, F County surveying centers in their struggle to fulfill the tasks
of accomplishing the socialist development in Czechoslovakia. (To be
contd.) p. 5,

Monthly List of East European Accessions (EEAI)LC, Vol. 8, No. 5,
May 1959, Unclass.

DREUCEANU , A.; BAGIU , L.; SPOREA , I.; SIMION , L.; FORMINTE , Tr.

Theoretical and experimental studies on replacement of alloys
for pistons of internal combustion motors. Bul St si Tehn Tim
7:171-175 '62.

DPRUCEAN, A.; BAGIU, I.; SPOREA, I.

Influence of thermal treatment on the behavior of some
piston alloys at operating temperature. Bul St si Tehn
Tim 8 no.1:123-129 Ja-Je '63.

SPORGA, H.

Anna Simsons fattens more than 200 swine yearly.

p. 4 (Padomju Latvijas Kolchoznieks) Vol. 9, N_o. 8, Aug. 1957, Riga, Latvia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

SPORIUS, A.E.,

PITIN, R.N.; SPORIUS, A.E.; FARBEROV, I.L.

First experiment in the gasification of oil shales. Trudy IGI 7:44-60
(MIRA 10:6)
'57. (Shale) (Coal gasification, Underground)

STRUCTURE

128

PHASE I BOOK EXPLOITATION

SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye
(Synthetic Zeolites: Production, Investigation, and Use). Mos-
cow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady)
Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh
nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor
of Chemical-Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P.
Golub'.

PURPOSE: This book is intended for scientists and engineers engaged
in the production of synthetic zeolites (molecular sieves), and
for chemists in general.

Card 1/123

10.8
Synthetic Zeolites: (Cont.)

SOV/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensoveta, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

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Synthetic Zeolites: (Cont.)

sov/6246

Belotserkovskiy, G. M., K. G. Ione, and T. G. Plachenov.
Production of Granular Synthetic Zeolites and Study
of Their Porous Structure

174

Plachenov, T. G., G. M. Belotserkovskiy, V. F., Karel'-
skaya, B. A. Lipkind, and L. I. Piguzova. Investiga-
tion of the Secondary Porous Structure of Synthetic
Zeolites and Their Drying Properties

182

Lipkind, B. A., V. A. Burylov, S. V. Kapatsinskiy, and
A. T. Slepneva. Granulation of a Synthetic Zeolite
Desiccant

191

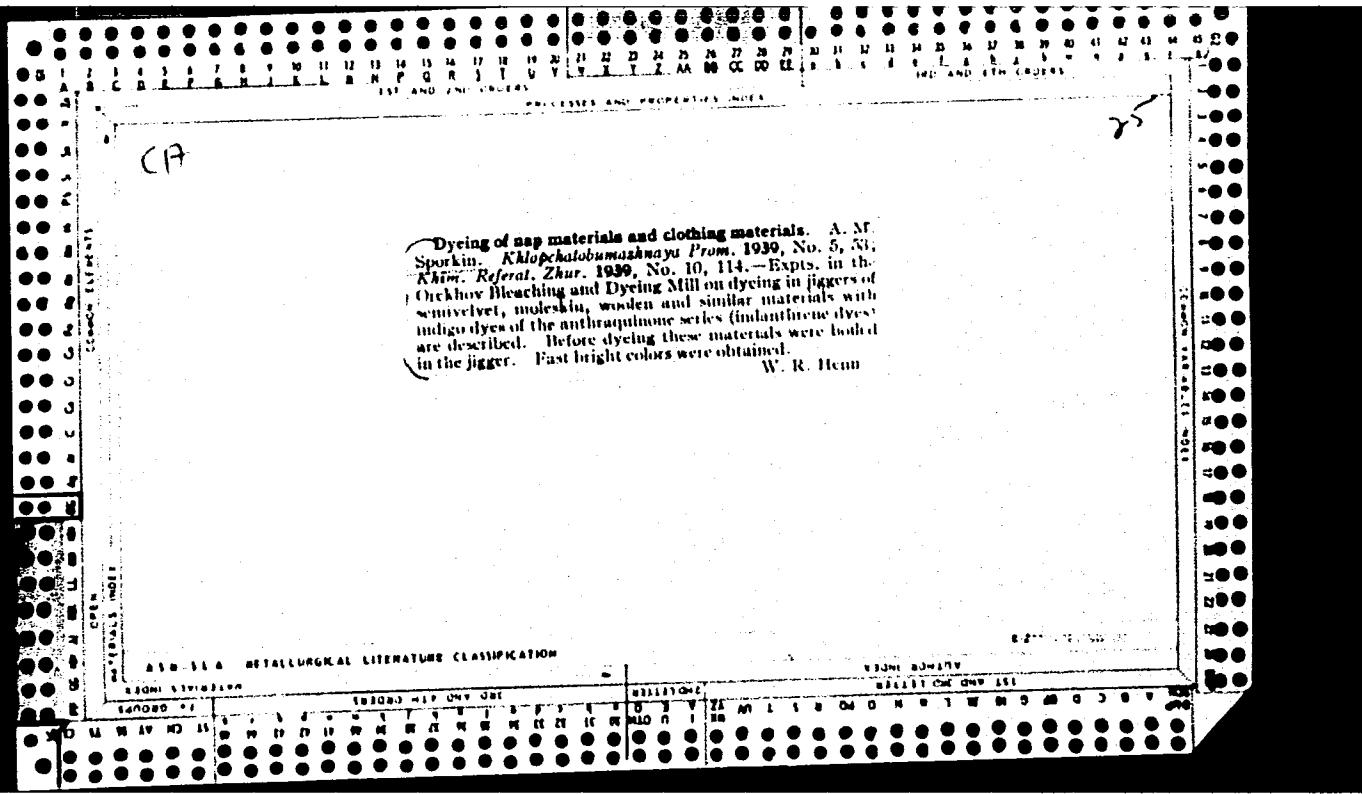
Kanavets, P. I., A. E. Sporius, P. N. Malent'yev, A. I.
Kazun, O. A. Bokuchava, V. I. Chernykh, and L. B.
Khandros. Production of Strong Spherical Granules of
Crystalline Zeolite Powders

195

Card 8/18-3/3

KANAVETS, P.I.; MELENT'YEV, P.N.; SPORIUS, A.E.; CHERNYKH, V.I.;
YENIK, G.I.; IVLEVVA, A.S.; GEES, B.A.; CHERNYSHEV, A.M.

Obtaining metallurgical coke from weakly-caking coals by
the preliminary granulation of coal charge mixtures prior
to coking. Trudy IGI 22:154-168 '63. (MIRA 16:11)



SPORKIN, A.M., inzhener.

Practical advice for finishers. Tekst.prom. 16 no.7:57 J1 '56.
(MLRA 9:8)

(Textile finishing)

SPORKIN, A.M., inzhener; MAKAROVA, K.I., inzhener.

Increasing the fastness of diazo dyes. Tekst. prom. 17 no.3:52 Mr'57.
(Dyes and dyeing) (MLRA 10:4)

SPORKIN, A.M., inzhener.

Roller cart for winding fabrics for printing. Tekst. prom. 17 №.7:
57 Jl '57. (MLRA 10:9)

(Textile printing--Equipment and supplies)

SPORKIN, A.M.

Success for Kalinin textile workers. Tekst. prom. 18 no.11:65-66
N '58. (MIRA 11:12)

l.Zamestitel' glavnogo inzhenera Kalininskogo khlopcatobumazhnogo
kombinata.
(Kalinin--Cotton manufacture)

SPORKIN, A.M.; TSIMEL'ZON, M.P.

Use of "Sulfirol-8" in sulfur dyeing. Tekst.prom. 19 no.8:80
(MIRA 13:1)
Ag '59. (Sulfide dyes) (Textile industry)

OSETROV, I.A.; SPORKIN, A.M.

Readers' conferences. Tekst. prom. 19 no.9:89-91 S '59.
(MIRA 12:12)

1. Direktor opornoj nauchno-tehnicheskoy biblioteki l'nokombinata
imeni Lenina (for Osetrov).
(Textile industry--Periodicals)

EXCERPTA MEDICA Sec.17 Vol.4/l Public Health, etc. Jan58
SPORN, A.

295. SPORN A. and PERETIANU J. Cercetari referitoare la toxicitatea galatului de etil *Researches concerning the toxicity of ethyl-galate* Igiena (Bucuresti) 1956, 1/2 (52-67) Graphs 5 Tables 6

Purified as well as impure ethyl-galate influences the development of white rats, inhibiting growth and the utilization of alimentary nitrogen. The toxicity of the pure ethyl-galate is higher than that of the impure substance. Chronic toxicity in rats is shown by degenerative lesions in liver and thalamus. The toxicity of ethyl-galate is much more evident in experimental animals treated on a low alimentary protein ration. Ethyl-galate should not be used as an antioxidant in food.

Given Name
SURNAME (in caps); Given Names

Country: Rumania

Academic Degrees: -Dr.-

Affiliation: Institute of Hygiene of the Rumanian People's Republic
(Institutul de igiena al R.P.R.)

Source: Bucharest, Stiinta si Tehnica, No. 6, Jun 1961, pp 34.

Data: "Nutrition-Health."

SFRU, A.
SFRU, CECER NEWS

Country: Romania

Aesthetic Report:

Affiliations: -not given-

Source: Bucharest, *Lejina*, Vol IX, No 4, Sep-Oct 1961, pp 377-379.

Title: "A Conference on 'The Problems of Hygiene in the Socialist Agricultural Sector'."

Authors:

BARTES, K.

BARNA, B.

STOY, A.

GPO 981643

RUMANIA

GRONI, A.

MD

Institute of Public Health and Hygiene of the RPR, ICIGHIU,
and the Institute of Biology of the Academy of the RPR (Institutul
de Igienă și Sanitate Publică RPR, ICIGHIU, și Institutul de
Biologie al Academiei RPR).

Bucharest, Igiena, Revista de Igienă și Sanitate Publică, No 5,
Vol XII, Sep-Oct 62, pp 377-388.

"Problems of Food Hygiene Raised by the Use of Chemical Substances
in Agriculture." (Paper Compiled at the Institute of Public Hygiene
and Health of the RPR, ICIGHIU, and the Institute of Biology of the
Academy of the RPR.)

Co-authors:

CAVAT, Lucia; BALIF, Gabriela

(cont-2)

Romania

BRODĂ, A., MD; SCHOBINGER, G., MD; NICOLAU, C.

Section of Alimentation Hygiene of the Institute of
Hygiene and Public Health of the Romanian People's
Republic (Sectia de igiena a alimentatiei a Institutului
de igiena si sanatate publica al R.P.R.) - (for all)

Bucharest, Igienea, Vol XII, No 1, Jan-Feb 63, pp 21-26.

"Investigations concerning the Hygienic-Sanitary Characterization
of Plastic Substances used in the Food Industry. Study of
the Toxicity of Extracts from High and Low Pressure
Polyethylene and from Polystyrene."

(3)

SPORN,A.; SCHOBESCH,O.; NICOLAU,C.

Investigations concerning the hygienic- sanitary characteriza-
zation of plastic material used in the food industry. A
study of the toxicity of high and low pressure polyethylene
extracts and of polystyrene extracts. Rumanian med. rev. 7
no.4:24-29 O-D'63

*

RUMANIA

SPOHN, A., MD; SCHÖBESCH, O., MD.

Department of Food Hygiene of the Institute of Hygiene and Labor Protection, Bucharest (Sectia de igiena alimentatiei a Institutului de igiena si protectia muncii, Bucuresti) - (for all)

Bucharest, Igiena, No 4, Jul-Aug 63, pp 315-326

"Influence on the Animal System of the Concomitant Administration of Certain Chemical Products which Pollute, or are Added to Food."

RUMANIA

SPORN, A., Dr; SCHOESCH, O., Dr; MARIN, Victoria, Biolog; PANAI-
TESCU, Elena; RUNCANU, Lucia

Section for Alimentary Hygiene of The Institute of
Hygiene and Protection of Labor of the RPR (Sectia
de igiena alimentatiei a Institutului de igiena si
protectia muncii al RPR) - (for all)

Bucharest, Igiena, No 5, 1963, pp 437-445

"Studies on the Toxicity of Butyl Acetate, Methyl-
naphthylketone and Ionone"

(5)

RAUTU, R., chim.; HOBINCU,A., ing.; SPORN,A., dr.; DUMITRESCU,M., chim.; PETROVICI,C., ing.; PERLEA,M., ing.

Determining the valuation and control criteria for hard and plasticized polyvinyl chloride. Ind alim anim 11 no. 2:50-53,
57 F'63.

Spoon, R.

ROMANIA

SPORIU, A., MD; DINU, Ileanu; PANAITESCU, Elena.

Section of Alimentation Hygiene of the Institute of Hygiene
and Labor Safety of the R.P.R. (Sectia de igiena a
alimentatiei a Institutului de igiena si protectia muncii
R.P.R.) - (for all)

Bucharest, Igiena, Vol XII, No 2, Mar-Apr 63, pp 139-148.

"The Level of Ascorbinaemia in Several Groups of Workmen."

(3)

SPORN, A.; DINU, Ileana

Influence of some chemical substances used in the food industry on the enzymatic activity of the liver. Studii cerc biochimie 7 no.1:23-34 '64.

I. Institute of Hygiene and Labor Protection, Bucharest.

SPORN, Z.

Treatment of paralytic pes plano-valgus by means of Grice's operation.
Preliminary communication. Acta chir.iugosl. 7(8) no.2:133-141 '60.

l. Ortopedski odjel Opce bolnice "Braca dr. Sobol" u Rijeku (Sef
doc. dr. Zdenko Sporn)
(FLATFOOT surg)
(FOOT dis)

SPORN, Z.

Our experience with operating on disk hernia. Acta chir. Jugosl.
8 no.3:190-197 '61.

1. Ortopedski odjel Opće bolnice "Braca dr. Sobol", Rijeka (Sef
doc. dr Z.Sporn).
(INTERVERTEBRAL DISK DISPLACEMENT surg)

SPORN, Z.; MOHOROVICIC, D.

A rare case of a giant-cell tumor of the vertebra. Acta chir. Jugosl.
9 no.2:189-193 '62.

1. Ortopadski odjel (sef doc. dr Z Sporn) i Zavod za patologiju (sef
dr D. Mohorovicic) Opce bolnice "Braca dr Sobol" u Rijeci.
(SPINE neopl) (GIANT CELL TUMORS case reports)

GESS, B.A.; CHERNYSHEV, A.M.; KANAVETS, P.I.; MELENT'YEV, P.N.;
KHROMYAK, R.P.; VORONOV, Yu.G.; TSYLEV, L.M.; CHERNYKH, V.I.;
BORISOV, Yu.I.; SPORIUS, A.E.; Prinimali uchastiye: TOLEROV,
D.D.; MINKIN, V.M.; MARKIN, A.A.; GORLOV, M.Ya.; KHAYLOV, B.S.

Experimental blast furnace smelting with replacement in
the charge of 20-per cent of the fluxed sinter by granules
prepared by chemical catalysis. Trudy IGI 22:110-113 '63.
(MIRA 16:11)

MACZYNISKI, Boguslaw; SPORNY, Bogdan

Effect of action of short duration of ACTH and cortisone in
Graves-Basedow disease. Polski tygod. lek. 11 no.44:1857-
1861 29 Oct 56.

1. (Z i Kliniki Chirurgicznej A.M. w Poznaniu; kierownik:
prof. dr. Stanislaw Nowicki) adres: Poznan, ul. Podlaska 27
m. l.

(HYPERTHYROIDISM, physiology,
eff. of ACTH & cortisone in humans (Pol))
(ACTH, effects,
on hyperthyroidism in humans (Pol))
(CORTISONE, effects,
same)